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# Phi Zeta Day

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# Foot-and-Mouth Disease

If foot-and-mouth disease arrives in the USA, it will have a devastating economic impact on both livestock and wildlife, as well as tourism. Losses could be measured in billions of dollars.

The last outbreak in the USA was in 1929; it was contained at a cost of \$10 million (that is equivalent to about \$1 billion in FY2000 dollars).

The virus spreads rapidly and would be difficult to control if it invaded the wildlife (deer) populations. In 1929 the US deer population was small, as it was heavily hunted. Today, the environment is different and we have a huge overpopulation of whitetail deer. The feral swine population in the South also presents a serious potential for spreading the disease.

While foot-and-mouth disease is NOT a threat to humans, the virus can be transported "mechanically" via the human respiratory system, where it can remain viable for up to five days post exposure. It can also be transported on clothing, shoes, and personal items and remain viable for up to nine weeks.

Animals at risk include all cloven-hoofed animals (pigs, cattle, goats, sheep, deer) as well

as rats, hedgehogs and zoo animals (including elephants).

Horses are not susceptible to foot-and-mouth, but can carry the virus. Details on handling horses imported into the USA from countries with FMD may be found at [www.aphis.usda.gov/oa/fmd/fmdhorse](http://www.aphis.usda.gov/oa/fmd/fmdhorse)

The virus can be spread by direct and indirect contact with infected animals. Animals may be infectious several days before they show symptoms. Incubation period is 4-16 days.

Other methods of transmission are through movement of animals, persons, vehicles, equipment etc. which have been contaminated by the virus.

In addition, meat from animals infected with FMD at the time of slaughter can transmit the virus. It is resistant to freezing.

Travel to infected countries should be given careful consideration. If such travel is necessary, strict precautions must be taken before returning to the USA. Details on disinfection can be found at [www.maff.gov.uk/animalh/diseases/fmd](http://www.maff.gov.uk/animalh/diseases/fmd)

Risk is high given the amount of trade between the UK and the USA. 2.3 million kilo-

grams of frozen pork were imported to the USA from the UK from January to November 2000. Other products with potential to carry the virus totaled \$443.4 million for the same period and included biologics, animal feeds, dairy products, animal fats, hides, skin and wool, ice cream and prepared or preserved meat.

In 1999, 16.4 million passengers arrived in the US on direct flights from the UK. Of these, 4.25 million were UK residents.

462 passengers sampled as part of APHIS, PPQ's Agriculture Quarantine Inspection in FY99 were carrying potentially hazardous items such as meat products, cheese or hides. Of those 462 people, 22 planned to visit or work on a farm or ranch while in the USA and their destinations ranged from New York and Virginia to as far afield as Texas and California.

## Websites for more information:

[www.maff.gov.uk/animalh/diseases](http://www.maff.gov.uk/animalh/diseases)

(Ministry of Agriculture, Fisheries and Food—UK)

[www.aphis.usda.gov/oa/fmd](http://www.aphis.usda.gov/oa/fmd)

(US Department of Agriculture—USA)

## Phi Zeta Day

Each Spring the veterinary honor society, Phi Zeta, Beta Chapter, organizes Phi Zeta Day when students present research papers. This year the event was on March 22 and six students presented their work at Marookian Auditorium at VHUP. The papers were the results of research projects the students had conducted under the auspices of Penn faculty at the Veterinary and Medical Schools.

**Amy Hancock, V'02**, and **Katherine Masek, V'02**, shared the first prize. **Amy Hancock**, who was sponsored by Dr. Keith Mansfield, presented "Characterization of Mycobacterium avium Complex Infection in the Livers of SIV-infected Rhesus Macaques." **Katherine Masek, V'02**, sponsored by Dr. Carmen J. Williams, presented "Expression and Localization of Soluble Adenyllyl Cyclase in Murine Oocytes."

The second prize was awarded to **Tracy**

**Filler, V'02**, who was sponsored by Dr. Urs Giger. Her presentation was "Identification of the Disease Causing Mutations for Erythrocyte Pyruvate Kinase Deficiency in the Dachshund, Chihuahua and American Toy Eskimo."

**Colleen Kane, V'03**, received the third prize for the presentation "Flow Cytometric Analysis of the Development of Murine Fetal Liver Cytotoxicity." She was sponsored by Dr. Margret Casal.

**Jennifer Adler, V'03**, sponsored by Dr. James Serpell, received honorable mention for "Understanding Urban Animal Cruelty: An Ecological Model." Honorable mention was also received by **Alexander Hamberg, V'03**, for "Feline Mucopolysaccharidoses I: Diagnosis and Evaluation of Therapy." He was sponsored by Dr. Mark Haskins.

Following the presentations, the 2001 Phi Zeta, Beta Chapter, Veterinary Honor

Society Award and Induction Banquet was held at Logan Hall on the campus. Dr. Gary Smith, professor of population biology and epidemiology, gave a presentation on foot and mouth disease. The students who had presented papers earlier in the day were recognized and awarded their prizes. This was followed by the induction of new members. Elected to membership were: Class of 2002—Alison Beale, Catherine Cheng, Kristen Fischer, Melissa Geedey, Elizabeth Gordan, Erika Krick, Erin Mairs, Katherine Masek, Karen Oberthaler, Melissa Sanchez, Ian Spiegel; Class of 2001—Christine Adreani, Patricia Alexander, Daniel Goldner, Dorian Haldeman, Traci Holder, Danielle Kitz, Brennen McKenzie, Cheyney Meadows, Lori Miles, Lisa Noble, Marjorie Rosmarin, Tiffany Scanlon, Jason Stull, Brian Turgeon, Regan Williams, Stefanie Worwag.